CLAIMS:

1. An optical information medium (20) for recording by means of a focused radiation beam (10) having a radiation wavelength λ and a numerical aperture NA, said medium (20) having a substrate (1), a stack (2) of layers provided thereon, the stack (2) comprising at least a first recording stack (3) and k radiation beam transmissive layers (4, 5, 6, 7, 11, 12, 13) each radiation beam transmissive layer (4, 5, 6, 7, 11, 12, 13) having a refractive index n_i and an average thickness d_i µm and $1 \leq i \leq k$ and $k \geq 2$, characterized in that the average thickness d_k of transmissive layer k satisfies the equation

$$d_k = D(n_k)\left[1-\sum_{i=1}^{k-1}\frac{d_i}{D(n_i)}\right] \pm 0.01 D(n_k)\ \mu\text{m, in which } \sum_{i=1}^{k-1}\frac{d_i}{D(n_i)} < 1$$

and D(n) represents the thickness versus refractive index function in µm, of a single layer radiation beam transmissive layer causing minimal spherical wavefront aberration in the focal point of the focused radiation beam (10), said focal point being at the recording layer of the first recording stack (3).

2. An optical information medium (20) as claimed in Claim 1, characterized in that the refractive index n_i of each of the radiation beam transmissive layers (4, 5, 6, 7, 11, 12, 13) satisfies

$$1.45 \leq n_i \leq 1.70.$$

3. An optical information medium (20) as claimed in Claim 1 or 2, characterized in that

$$D(1.60) = 100\ \mu\text{m}.$$

4. An optical information medium (20) as claimed in Claim 3, characterized in that

D(n) is represented by consecutive connection, with substantially linear line parts, of coordinates (n, D(n)) with the values (1.45, 98.5), (1.50, 98.6), (1.55, 99.2), (1.60, 100), (1.65, 101.1) and (1.70, 102.4).

5. An optical information medium (20) as claimed in Claim 1 or 2, characterized in that

$$D(1.60) = 300\ \mu m.$$

6. An optical information medium (20) as claimed in Claim 5, characterized in that

D(n) is represented by consecutive connection, with substantially linear line parts, of coordinates (n, D(n)) with the values (1.45, 303.8), (1.50, 301.0), (1.55, 299.9), (1.60, 300), (1.65, 301.1) and (1.70, 303.0).

7. An optical information medium (20) as claimed in any of Claims 1 - 6, characterized in that

$$d_k = D(n_k)\left[1 - \sum_{i=1}^{k-1} \frac{d_i}{D(n_i)}\right] \pm 0.001 D(n_k)\ \mu m.$$

8. A method of manufacturing an optical information medium (20) for recording by means of a focused radiation beam (10) having a radiation wavelength λ and a numerical aperture NA, comprising

-providing a substrate (1),

-depositing a stack (2) of layers thereon, the stack (2) comprising at least one recording stack (3) and k radiation beam transmissive layers (4, 5, 6, 7, 11, 12, 13), each radiation beam transmissive layer having a refractive index n_i and average thickness d_i µm and $1 \leq i \leq k$ and $k \geq 2$,

characterized in that

-depositing the k^{th} layer is carried out with an average thickness d_k which is determined by the formula

$$d_k = D(n_k)\left[1 - \sum_{i=1}^{k-1} \frac{d_i}{D(n_i)}\right] \pm 0.01 D(n_k)\ \mu m, \text{ in which } \sum_{i=1}^{k-1} \frac{d_i}{D(n_i)} < 1 \text{ and}$$

D(n) represents the thickness versus refractive index function in µm, of a single layer radiation beam transmissive layer causing minimal spherical wavefront aberration in the focal point of the focused radiation beam (10), said focal point being at the recording layer of the first recording stack (3).

9. A method of manufacturing an optical information medium (20) as claimed in Claim 8,

characterized in that the refractive index n_i of each of the radiation beam transmissive layers (4, 5, 6, 7, 11, 12, 13) satisfies

$$1.45 \leq n_i \leq 1.70.$$

10. A method of manufacturing an optical information medium (20) as claimed in Claim 8 or 9,

characterized in that

$$D(1.60) = 100\ \mu m.$$

11. A method of manufacturing an optical information medium (20) as claimed in Claim 10,

characterized in that

D(n) is represented by consecutive connection with substantially linear line parts of coordinates (n, D(n)) with the values (1.45, 98.5), (1.50, 98.6), (1.55, 99.2), (1.60, 100), (1.65, 101.1) and (1.70, 102.4).

12. A method of manufacturing an optical information medium (20) as claimed in Claim 8 or 9,

characterized in that

$$D(1.60) = 300\ \mu m.$$

13. A method of manufacturing an optical information medium (20) as claimed in Claim 12,

characterized in that

D(n) is represented by consecutive connection with substantially linear line parts of coordinates (n, D(n)) with the values (1.45, 98.5), (1.50, 98.6), (1.55, 99.2), (1.60, 100), (1.65, 101.1) and (1.70, 102.4).